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Notice of Allowability	Application No.	Applicant(s)	
	10/643,900	TAKASHI IIZUKA ET AL.	
	Examiner	Art Unit	
	Hai C. Pham	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed 08/20/03.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 20 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>11/20/03</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: Claims 1 and 9 are patentable over the prior art patents and printed publications because of the specific manufacturing method of a scanning optical system wherein the imaging lens system has to fulfill a specific condition with regard to the width of the reflecting surface of the polygon mirror in the sub-scanning direction, the incident angle of the laser beam on the reflecting surface of the polygon in the sub-scanning direction, the distance between the reflecting surface of the polygon mirror and the first lens surface at the front end of the imaging lens system, and the radius of curvature of the first lens surface in the sub-scanning direction (referring to claim 1), or a specific condition related to all the above-mentioned parameters as well as to the radius of curvature of the second lens surface next to the first lens surface in the sub-scanning direction (referring to claim 9) and only then an anti-reflection coating is formed on the first lens surface so as to produce the scanning optical system. This serves to even improve light transmission efficiency through the imaging lens system and is not taught by the prior art of record alone or in combination.

Claims 2-8 and 10-16 are allowed because they are directly or indirectly dependent from claims 1 and 9 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. The prior art made of record, Debesis et al. (U.S. 5,841,463) discloses a method of manufacturing a laser print head by mounting a cylinder lens on a cylinder lens holder to be aligned with the laser array before applying an anti-reflection coating to the cylinder lens surface to achieve additional optical transmittance efficiency.

Yamaguchi et al. (U.S. 6,667,757), discloses a light scanning unit use in an image forming apparatus, wherein a reflection preventing film is provided on the lens surface of the imaging lens system is possible but with the risk that a profile irregularity of the lens surface is reduced and an optical performance would be affected.

Ando (U.S. 5,680,242) discloses a scanning optical apparatus in which the coating of a reflection preventing film on the surfaces of the scanning lenses would reduce the loss of energy from the reflected laser beam as well as to improve the uniform exposure amount at the scanned area. However, Ando recommends using a laser beam with a polarization direction inclined by 45 degrees to reduce the light reflection such that the reflection preventing film is not needed to be provided on one or more transmission surfaces among the construction surfaces constructing the imaging lenses.

None of the above-mentioned prior arts teaches the claimed specific conditions at which the scanning optical system should attain before an anti-reflection coating is provided to the imaging lens surface.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**HAI PHAM
PRIMARY EXAMINER**

May 16, 2005